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AUTHOR Krysinski, Patricia R.; And Others
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ABSTRACT

Because administrative theory as presently developed does not allow administrative action to be accurately assessed, measuring participant responses to case study problems employing a predetermined, closed set of responses has questionable validity. This study tries to develop an alternative methodology and to test the resulting instrument in an appropriate setting. The study focuses on one class of educational administrators (principals) and assesses participant responses in terms of implied leadership style. For the purpose of developing an instrument, leadership is defined as the use of authority and power in social control. Authority and power relationships are further analyzed and grouped into several modes, with accompanying diagrams. From these modes an instrument called the Principal Leadership Profile was developed over which graphically displayed individual profiles can be imposed. Leadership profiles of both experienced and novice principals show a tendency to favor leadership approaches based primarily on charismatic and traditional authority; the use of legal authority is considerably less. The paper discusses several other profile characteristics (including male and female responses) indicating instrument validity. Included are 19 figures and 12 references. (MLH)

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ASSESSING LEADERSHIP QUALITIES OF SCHOOL PRINCIPALS EMPLOYING RESPONSES TO CASE STUDIES

Patricia R. Krysinski

Donald B. Reed

Thomas D. Gougeon

Mack D. Armstrong

Washington State University

EA 019 409

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ASSESSING LEADERSHIP QUALITIES OF SCHOOL PRINCIPALS EMPLOYING RESPONSES TO CASE STUDIES

Introduction

Administrator assessment center technology, developed in the early 1950's as part of a research project to determine the advancement of employees and the effects of advancements on the organization of AT&T (Howard, 1982), has been adapted by other businesses (Cohen, 1980; Scharlatt, 1983) as well as by education (Hersey, 1982; DeMont & Hughes, 1984). Assessment centers for educational administration currently are used as selection processes, but recommendations for use in administrative inservice training are increasing (DeMont & Hughes, 1984; Hersey, 1982).

Assessment centers operate by first determining competencies related to positions by conducting job analyses (DeMont & Hughes, 1984; Fitzenz, Hards & Savage, 1980). Then, competencies related to positions are determined, and related simulations and experiential activities are developed. Activities include in-basket simulations, discussions, interviews, leaderless group activities, and paper and pen exercises (Howard, 1982; Nichols & Hudson, 1980; Hersey, 1982).

One type of in-basket activity involves the response of assessment center participants to case studies. The case studies involve a typical administrative problem presented

in narrative form. Participants are requested to read and study a case and verbally present a plan of action to solve the problem contained in the case. The assessment of a participant's plan of action is made by comparing the response against a predetermined closed set of responses.

The assessment of responses using a predetermined closed set of responses gives rise to some problems. Perhaps the most important of these arises because correct responses are determined through logical deduction employing administrative theory. However, administrative theory has not been developed to an extent which allows very precise guidance and assessment of administrative action. Hence, assessing participant responses to administative problems posed in case studies employing a predetermined closed set of responses has questionable validity.

Purpose of the Study

As a response to the validity question noted above, a research project was conducted which addressed the following general question: Can a method be developed and implemented for assessing responses of participants in administrative assessment to case studies without employing a set of predetermined closed responses? Hence, the purpose of the research summarized here was two-fold. The first purpose was to develop an instrument for assessing responses to case studies which does not rest upon a set of predetermined closed responses. The second purpose was to test the

instrument developed in an administrative assessment-like setting.

Because the study was a beginning step, it was decided to limit the study to developing an instrument which would be appropriate for assessing the responses of one class of educational administrators; these were school principals.

Theoretical Perspective

As an alternative to assessing responses of participants in administrative assessment to case studies employing a predetermined set of closed responses, it was decided to assess participant responses in terms of administrative leadership style implied in the responses. For purpose of developing an administrative leadership assessment instrument, leadership was defined as the use of authority and power in social control (Spady & Mitchell, 1977). Authority in leadership involves a leader getting followers to voluntarily hold and personally fulfill desired role and goal expectations. Power in leadership involves a leader getting followers to voluntarily or involuntariiy display certain behaviors.

Leadership associated with authority involves establishing and maintaining interpersonal relationships which have an authentic and substantive character. These relationships are intrinsically fulfilling to both leader and followers. Arising out of the authentic and substantive relationships are symbols, both tangible and intangible,

which are extrinsic to the relationships. The symbols, when separated from authority relationships, become power resources for leaders. Leadership associated with power arises when a leader manipulates these resources with the intent of controlling the behavior of followers.

Power resources can be viewed by followers as either rewarding or punishing. When leaders employ the former, voluntary behavior of followers results; when leaders employ the latter, involuntary yet compliant behavior of followers ensues. In order to avoid fear and anxiety associated with punishments, behavior of followers conforms to a leader's desires. It is important to underscore the notion that leadership associated with power can voluntarily and involuntarily control the behavior of followers; where as, only leadership associated with authority can get followers to voluntarily hold and fulfill desired role and goal expectations.

Authority relationship between a leader and followers can be analytically separated into four independent authority modes. These include charismatic, traditional, legal, and expert. Followers experience intimacy under a leader's charismatic authority and worthiness under traditional authority. Under legal authority, followers experience security and experience adequacy under expert authority. The authority modes, the relationship among them, and their impact on followers are presented in Figure 1.

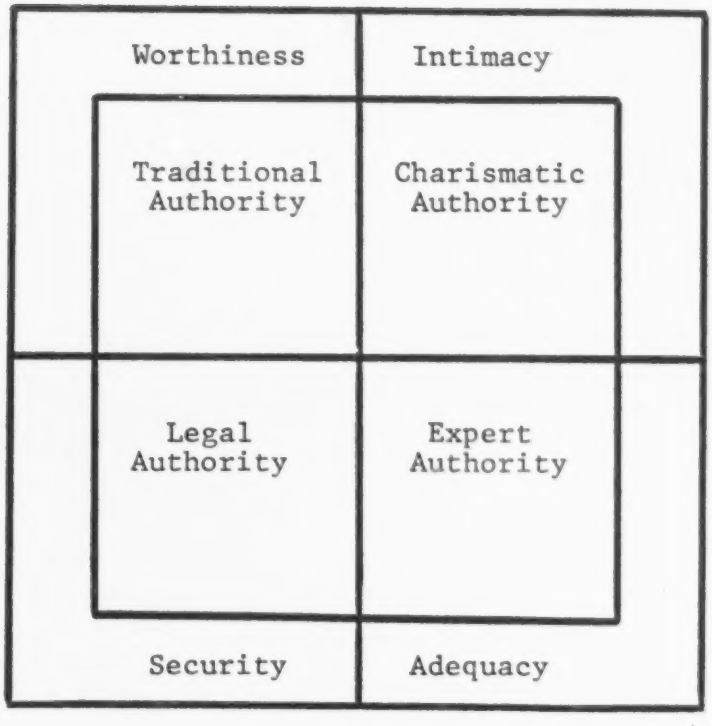

Figure 1*

Four Leadership Authority Modes, the Relationship Among the Modes, and the Impact of the Modes on Followers

*Adapted from a figure in Spady & Mitchell, 1977.

Similar to authority relationships between a leader and followers, power relationships can be analytically separated into four corresponding independent modes. These include psychological, moral, contractual, and technical. Associated with each of these modes are rewarding and punishing resources. Followers experience acceptance when a leader employs rewarding psychological resources and rejection when punishing psychological resources are used. Honor is experienced by followers when a leader uses rewarding moral resources and shame when punishing moral resources are employed. Rewarding contractual resources used by a leader produce the experience of autonomy in followers, and punishing contractual resources produce a sense of coercion in followers. The use of rewarding technical resources by a leader leads to a sense of potency on the part of followers; where as, the use of punishing technical resources produces a feeling of manipulation. The power modes, the relationship among them, and the consequences they have for followers are presented in Figure 2.

Leadership can be viewed as having four distinct authority functions. These include management, evaluation, training, and socialization. Component combinations of authority modes form the basis of the four leadership authority functions. Components of traditional and legal modes of authority form the basis of the management function. The evaluation function is based on components of

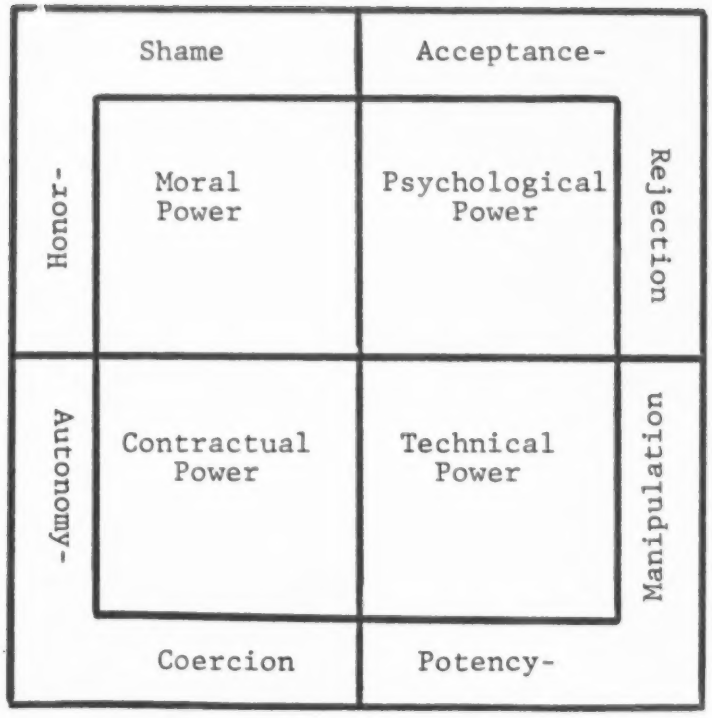

Figure 2*

Four Leadership Power Modes, the Relationship Among the Modes, and the Consequences of the Modes on Followers

*Adapted from a figure in Spady & Mitchell, 1977.

legal and expert modes of authority. Expert and charismatic authority mode components serve as the basis of the training function. And, the socialization function of leadership is based on charismatic and traditional authority mode components. Figure 3 presents the four leadership authority modes, their impact on followers, and their associate leadership authority functions.

Similar to authority, leadership can be viewed as having four distinct power functions. Related to the reward and punishment aspects of power, the functions have both personally acceptable and personally unacceptable aspects. Hence, the four leadership power functions occur in pairs; these include admiration and social isolation, dominance and normlessness, success and powerlessness, and challenge and self estrangement.

Component combinations of power modes form the basis of the four leadership power functions. In reward oriented power, components of the psychological and moral power modes form the basis of the admiration function; in punishment oriented power, components of these same power modes form the basis of the social isolation function. Components of the moral and contractual power modes form the basis of the dominance function in reward oriented power; components of these same modes form the basis of the normlessness function in punishment oriented power. Components of the contractual and technical modes of power in reward oriented power form the basis of the success function; components of these same

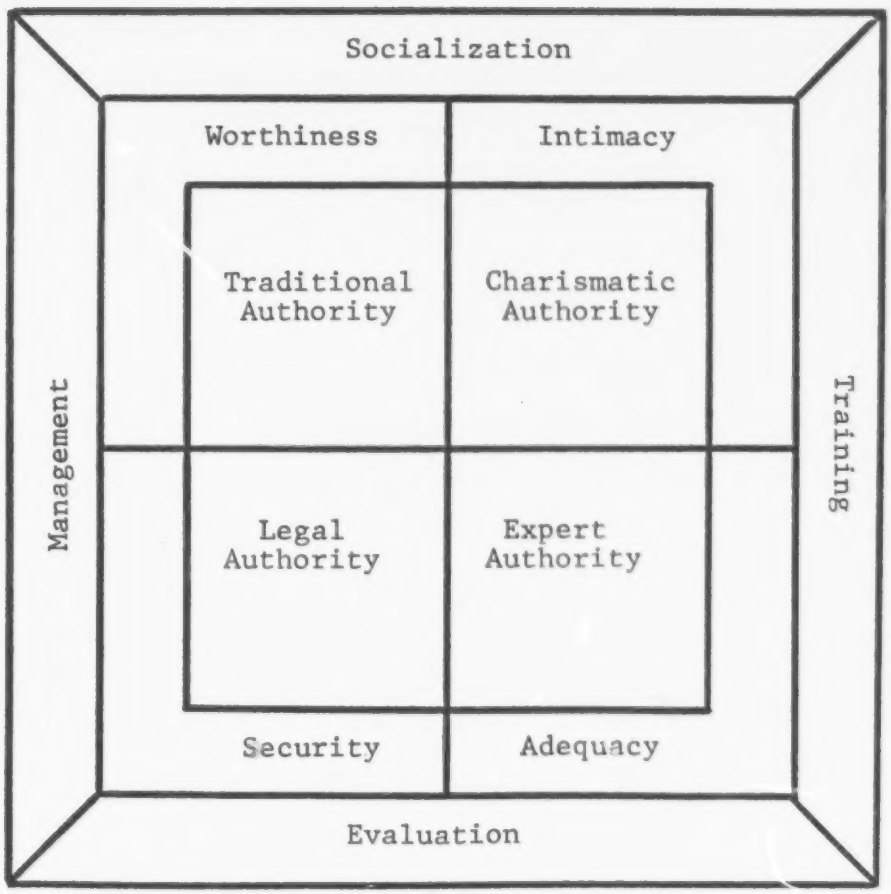

Figure 3*

Four Leadership Authority Modes, the Impact of the Modes on Followers, and the Leadership Authority Functions Associated with the Modes

*Adapted from a figure in Spady & Mitchell, 1977.

power modes in punishment oriented power form the basis of the powerlessness function. And, in reward oriented power, components of the technical and psychological power modes form the basis of the challenge function; punishment oriented power components of these same power modes form the basis of the self estrangement functions. Figure 4 presents the four leadership power modes, their respective reward and punishment consequences for followers, and their associated leadership power functions.

Leadership can be viewed as having four distinct authority orientations. Each of the orientations involves a pair of polar sub-orientations. The polar pairs include formal roles and informal roles, maintenance goals and production goals, organizational stability and individual change, and rational relationships and affective relationships. In each pair, the presence of one sub-orientation does not negate the presence of the other; however, the intensity of one sub-orientation in a pair may predominate over the other.

Component combinations and/or combinations of authority modes form the basis of the two polar sub-orientation in each of the four leadership orientations. The legal authority mode along with components of the traditional and expert authority modes form the basis of the sub-orientation aimed at establishing and maintaining formal roles; on the other hand, the charismatic authority mode along with components of the traditional and expert authority modes

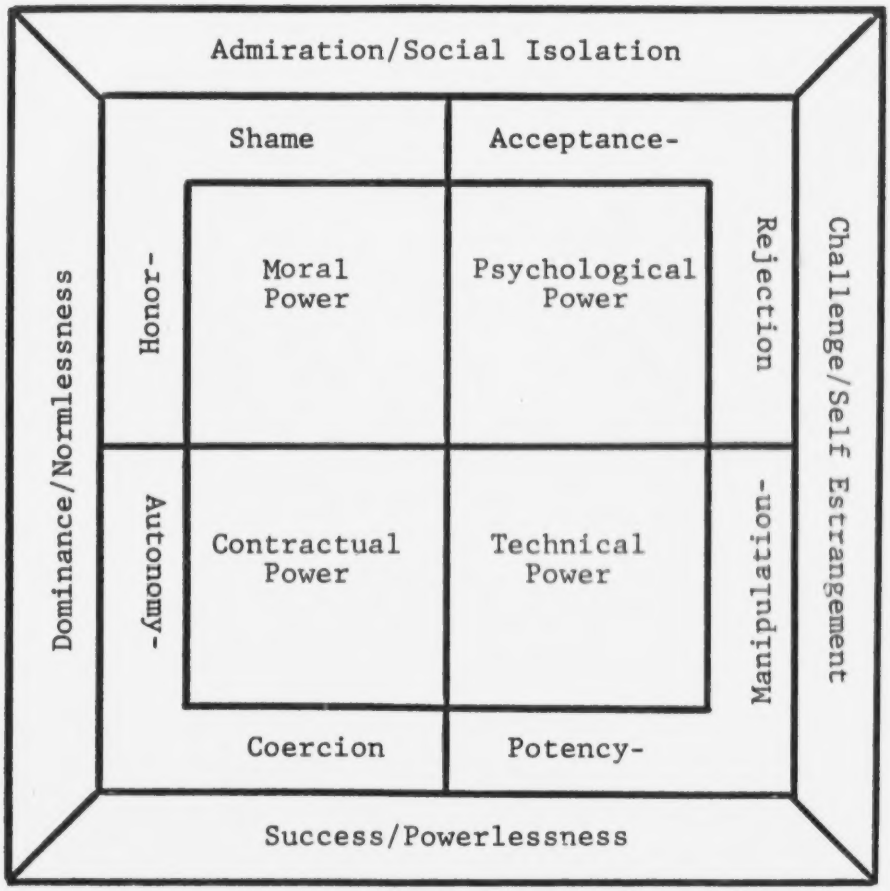

Figure 4*

Four Leadership Power Modes, the Consequences of the Modes on Followers, and the Leadership Power Functions Associated with the Modes

*Adapted from a figure in Spady & Mitchell, 1977.

form the basis of the sub-orientation aimed at establishing and maintaining informal roles. The sub-orientation aimed at establishing and continuing production goals is based on the expert authority mode along with components of the legal and charismatic authority modes; whereas, the sub-orientation aimed at establishing and continuing maintence goals is based on the traditional authority mode along with components of the charismatic and legal authority modes. The traditional and legal authority modes form the basis of the sub-orientation aimed at establishing and maintaining organizational stability; whereas, the charismatic and expert authority modes form the basis of the sub-orientation aimed at initiating and sustaining individual change. And, the legal and expert authority modes form the basis of the sub-orientation aimed at establishing and maintaining rational interpersonal relationship; on the other hand, the traditional and charismatic authority modes form the basis of the sub-orientation aimed at establishing and maintaining affective interpersonal relationships.

Figure 5 presents the four leadership authority modes, their impact on followers, the leadership authority functions associated with various mode components, and the leadership orientations associated with various authority modes and component modes.

For purposes of developing an instrument to assess responses of participants in administrative assessment to case studies, leadership style was defined as the intensity

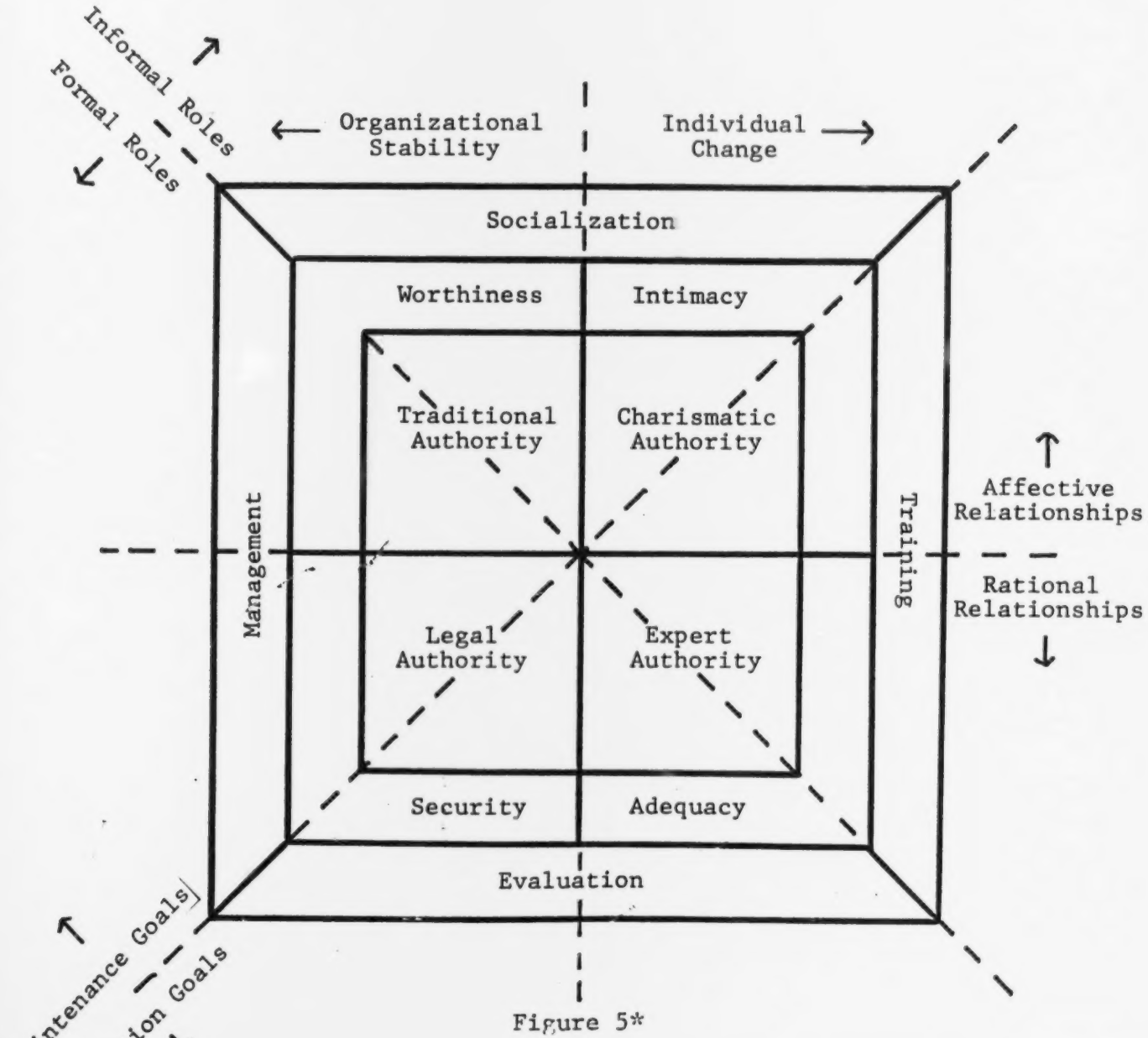

Figure 5*

Four Leadership Authority Modes, the Impact of the Modes on Followers, the Leadership Authority Functions Associated with the Modes, and the Leadership Orientations Associated with the Modes.

*Adapted from a figure in Spady & Mitchell, 1977.

of the presence of the various modes of authority and power in administrative action.

Research Methodology

Assessment Instrument

In response to the first purpose of the study, employing the conception of leadership discussed above, an instrument for assessing participant responses to case studies was developed. The instrument was given the title, Principal Leadership Profile.

The instrument was constructed in four sections. The first section, containing 12 items, was designed to assess the intensity of the four authority modes in participant responses. The second section contains 16 items and was constructed to assess the intensity of the four power modes in participant responses. The third section, containing four items, was designed to assess the intensity of the four leadership orientations in participant responses. The forth and final section contains a single item and was constructed to assess participant responses in terms of overall leadership effectiveness. In all the intrument contains 33 items.

In the section designed to assess participant responses for the intensity of various modes of authority, 12 indicator items were constructed. Four of these were designed to assess the intensity of charismatic,

traditional, legal, and expert authority modes independently.

The remaining eight items in the first section were constructed to assess the intensity of the various component combinations of authority modes related to the four leadership authority functions. For each function, management, evaluation, training, and socialization, two items were developed to assess the intensity of their respective authority modes in responses.

In the second section of the instrument, which was designed to assess participant responses for the intensity of various modes of power, 16 indicator items were constructed. For each of the four power modes, one item was developed to assess the intensity of the reward orientation of participant responses, and another item was constructed to assess the intensity of the punishment orientation of responses. The eight other items in the second section were developed to assess the intensity of the various component power modes associated with the four leadership power functions. For each function, two items were developed. One item was constructed to assess the intensity of reward oriented responses; the second was developed to assess the intensity of punishment oriented responses.

Each of the four items in the third section of the instrument was designed to assess the intensity of the authority modes associated with each of the four leadership authority orientations. Each item was developed to assess

the intensity of the component authority modes and/or authority modes of the polar sub-orientations associated with each leadership orientation.

The forth and final section of the assessment instrument contained a single item. This item was developed to assess participant responses in terms of overall leadership effectiveness.

The 34 item instrument was constructed with all items in parallel form and in such a way that all items could be rated on a five-point scale. In the instrument, assessors are directed to assess responses holistically. In the first section of the instrument, for participant responses, assessors are directed to indicate the emphasis of authority modes responses as characterized in each item. Similarily, assessors in the second section are directed to indicate the emphasis of power modes as described in each item. Employing the five-point rating scale, assessors are directed to score items with a "1" if a response "does not emphasize" and a "5" if a response does "strongly emphasize" the indicated authority or power modes. Additionally, in both sections assessors are directed to indicate by item the emphasis of authority or power modes the participant "should emphasize." Hence, the instrument in the first two sections calls for a by item <u>is-ought</u> assessment of authority or power modes in participant responses.

In the third section of the instrument, assessors are directed to indicate the direction and intensity of emphasis

of the sub-orientation in each of the four polar pairs of sub-orientations. Employing the five-point rating scale, assessors are directed to score an item with a "1" if a response emphasizes one sub-orientation, a "5" if a response emphasizes the other sub-orientation, or a "3" if a response emphasizes neither. In the third section, assessors are also directed to indicate by item the emphasis the sub-orientation candidates should emphasize. Hence, the instrument in the third section also calls for an is-ought assessment for leadership orientations.

The fourth section of the instrument, which contains a single item, directs assessors to indicate participant leadership ability. Employing the five-point scale, a score of "1" indicates ineffective; a score of "5" indicates very effective.

Using the data from the Principal Leadership Profiles, four profiles can be developed graphically for each participant. These include an is-authority profile, an ought-authority profile, an is-power profile, and an ought-power profile. Collectively these graphically displayed profiles can be superimposed to produce an Individual Principal Leadership Profile.

Data from the Principal Leadership Profiles can also be aggregated and displayed for experienced principals and novice principals. Authority and power profiles developed from these data provide a basis for comparing individual

profiles with those of both experienced and novice principals.

Research Design

The second purpose of the study was to test the instrument in an assessment-like setting. In response to this purpose, two studies, referred to as assessment exercises, were conducted. The first of these was a pilot study (Krysinski & Reed, 1986), and the second of these was the full study which is the focus of this report. Details of the pilot study will not be reported here. Suffice it to note that based on the pilot, the full study was designed and conducted. The design of the study called for two groups of participants. One group would serve as candidates in the assessment exercise; the second group would serve as assessors of the candidate performance in the assessment exercise.

With respect to candidates, the design of the full study called for securing the participation of 36 individuals, 18 experienced principals and 18 novice principals who would agree to serve as candidates in the assessment exercise. For purposes of the study, experienced principals were considered to be individuals who currently held principalship and who had at least one year experience as a school principal. Novice principals were considered to be individuals who currently held teaching positions and who were currently enrolled in graduate level course work

required for a principal's credential. The design also called for the inclusion of equal numbers of experienced and novice principals at the elementary level (6 experienced and 6 novice principals), at the middle/junior high level (6 experienced and 6 novice principals), and at the high school level (6 experienced and 6 novice principals) as well as an equal number of men and women at each level. A summary of the research design is included in Figure 6.

The second group of participants would serve as assessors and would include eighteen volunteers. The design called for six central office administrators, six principals and six teachers who would serve as assessor. The assessors were divided into six teams each of which would be composed of one central office administrator, one principal, and one teacher. Each assessment team would assess six candidates who would be randomly assigned to assessment teams.

The assessment part of the study would span a period of four hours. The 36 candidates would be given a designated interview time and asked to read the case two hours before commencing the interview. Volunteer assessors would meet one hour prior to the arrival of candidates in order to review the assessment instrument and listen to a reading of the case study.

The assessment of candidates would entail two steps. First, assessors would interview candidates beginning with two questions that required open-ended responses regarding the case study. Assessors would be encouraged to ask

School Level	Novice Principals		Experienced Principals		Totals
	Male	Female	Male	Female	
Elementary	3	3	3	3	12
Middle/ Junior High	3	3	3	3	12
High	3	3	3	3	12
Totals					
Gender	9	9	9	9	
Experience	18		18		36

Figure 6

Research Design of Candidates Participating in Principal Leadership Profile Grouped by Categories

additional questions in order to assist the candidates' explanations, if necessary. Candidates would be allowed a maximum of 20 minutes to present a response to the case study. As candidates responded, assessors would independently complete a Principal Leadership Profile for each participant's response. The assessment interviews would also be video taped.

At the conclusion of all candidate interviews, assessors would review the video tapes and conduct a second assessment of candidates. The same team of assessors would assess the same candidates and complete a second Principal Leadership Profile for each candidate. The purpose of the video analysis would be to determine the assessment-reassessment reliability of assessors using the instrument.

Following the assessment exercise, the assessors and candidates would participate in a discussion evaluating the exercise and also complete a written evaluation.

Research Procedures

Volunteers were used in all phases of the assessment exercise. Teachers and administrators from seven school districts in south central Washington were contacted, explained the project, and requested to participate. Attempts were made to follow the research design in the selection of volunteers. Additional administrators were contacted as back up volunteers for individuals unable to participate.

In order to satisfy the research design for candidates, experienced and novice principals across three school levels were contacted. In addition, attempts were made to balance male and female candidates. Female novice volunteers from middle schools and male novices from elementary schools were particularly difficult to find. Not all people contacted agreed to participate, hence the actual design varied somewhat from the proposed research design.

Thirty-three volunteer candidates agreed to participate. Of these 12 were from elementary schools, nine from middle schools and 12 from high schools. Seventeen females and 16 males participated. The frequency of participation of candidates is shown in Figure 7.

Eighteen volunteer assessors participated in the study. Six teachers, seven principals, and five central office administrators were among the assessor teams. Seven females and eleven males participated. Attempts were made to distribute the three classes of assessors among six teams. Five of six teams were each composed of one: teacher, principal, and a central office administrator. Because of last minute no-shows, one team did not have a central office administrator representative.

The six teachers who participated as assessors ranged in experience from nine to nineteen years with an average of 16 years experience. One elementary, one middle school and five high school principals participated and their

School Level	Novice Principals		Experienced Principals		Totals
	Male	Female	Male	Female	
Elementary	1	3	4	4	12
Middle School	3	1	3	2	9
High School	2	3	3	4	12
Totals					
Gender	6	7	10	10	
Experience	13		20		33

Figure 7

Frequency of Candidates Participating in Principal Leadership Profile Grouped by Categories

experience ranged from five to 21 years, with an average of 13.4 years. The five central office administrators had an average of 16 years experience with a range of 11 to 24 years.

Prior to the day of the assessment exercise, packets of information were mailed to candidate volunteers. Each candidate volunteer received a sealed envelope with instructions written on the outside of the envelope. A designated interview time and instructions to read the contents of the envelope two hours before the interview were included. The envelope contained a written case study about a typical personnel problem which a school principal might have. Volunteer candidates were requested not to discuss the contents of the envelope or ideas regarding the contents with anyone. Hence, prior to the actual assessment interview, candidates were given two hours to read and formulate any responses to the case study.

On the day of the assessment exercise, the eighteen volunteer assessors met one hour before the arrival of candidates. The same case study that was distributed to candidates was given to assessors and read aloud to them.

The assessors were divided into six teams of three each. Each assessment team was assigned a separate conference room where a table and chairs were available for candidates and assessors. A video tape recorder and camera was in each room. Attempts were made to have each conference setting organized the same.

The three assessors in each team were given specific responsibilities. One assessor was the video operator; the second was the usher and questioner; and the third was the time keeper. Accordingly, each assessor team operated independent of other teams and contacts among teams were minimal.

The assessment exercise occurred in two steps. First, candidates presented responses to assessors who independently completed a Principal Leadership Profile. After all candidates were assessed, a second assessment of each candidate's responses occurred by analyzing the video tapes of respective candidates. The purpose of the second assessment was to develop data for estimating assessor reliability using the instrument.

Following the assessment exercise, volunteer candidates and assessors completed evaluation forms and participated in discussions about the process. Detailed notes from these discussions as well as the evaluation forms became part of the data for this study.

Analysis of Data

The data collected in the assessment exercise were analyzed for assessor reliability and instrument validity as well as utility. The reliability analysis focused on assessment-reassessment assessor reliability using the instrument. The validity analysis focused on estimates of construct validity for the instrument. The utility analysis

was focused on the development of individual leadership profiles for each candidate and the comparison of the profiles with composite or norm profiles developed across all candidates.

Assessor Reliability

As discussed in previous sections, all candidate responses were video taped. Each candidate response was assessed immediately following the response and again after teams of assessors viewed each candidate response a second time. Analysis of the data obtained in the two assessments of each candidate provides data for an estimate of an assessment-reassessment reliability for each assessor for each candidate. The data also provide for a reliable estimate of each assessor across all candidates assessed by the assessor as well as an estimate of the assessment-reassessment reliability across all assessors.

For purpose of estimating the assessment-reassessment reliability of assessors, Pearson product-moment correlation coefficients were computed for the assessment-reassessment data for the is-profile and the ought-profile data for each candidate. The correlation coefficients for the is- and ought-profile data were combined to give one correlation coefficient for each candidate assessment by each assessor. The correlation coefficients for each assessor over all candidates assessed by the assessor were combined to give a single correlation coefficient for each assessor. Also, the

coefficient for all 18 assessors were combined to produce a single Pearson product-moment correlation across all assessors and candidates. Figure 8 presents a summary of the various correlation coefficients used to estimate the assessment-reassessment reliability of the Principal Leadership Profile.

Assessment-reassessment correlation coefficients for individual assessors tend to be lower for the is-profile data than for the ought-profile data. For the is-profile data, the coefficients range from a low of .42 to a high of .88. For the ought-profile data, the coefficients range from a low of .63 to a high of .93. The combined correlation coefficient for all assessors for the is-profile data is .72; whereas, the combined coefficient for all assessors for the ought-profile data is .80.

Assessment-reassessment correlation coefficients for individual assessors for both the is- and ought-data range from a low of .63 to a high of .86. Assessment-reassessment correlation coefficients for the is- and ought-data combined for teams of assessors are relatively close and range from a low of .71 to a high of .80. Across all assessors and candidates for both the is- and ought-data, the assessment-reassessment correlation coefficient is .77. The .77 assessment-reassessment reliability coefficient for all assessors is respectable. However a comment is warranted.

Team Number	Assessor Number	Reliability Coefficients, r		
		Is-Profile Data	Ought-Profile Data	Is- and Ought-Profile Data
1	1	.61	.70	.66
	2	.83	.89	.86
	3	.75	.83	.80
	Team	.73	.81	.77
2	1	.75	.84	.80
	2	.88	.68	.78
	3	.76	.72	.75
	Team	.80	.75	.78
3	1	.71	.81	.77
	2	.62	.63	.62
	3	.73	.74	.73
	Team	.69	.73	.71
4	1	.42	.84	.63
	2	.78	.93	.86
	3	.64	.91	.78
	Team	.61	.89	.76
5	1	.72	.78	.75
	2	.76	.81	.79
	3	.75	.79	.77
	Team	.74	.79	.77
6	1	.67	.81	.74
	2	.81	.87	.84
	3	.76	.88	.82
	Team	.75	.85	.80
All Assessors		.72	.80	.77

Figure 8

Assessment-Reassessment Reliability Coefficients for Individual Assessors, Teams of Assessors, and All Assessors for Is-Profile Data, Ought-Profile Data, and Is- and Ought-Profile Data Combined.

The assessment and reassessment data were collected three hours apart. This time interval was relatively short and may cause the coefficient to be inflated. However between each assessment and reassessment, at least four other candidate assessments were conducted by each assessor. It is reasonable to expect that considerable interference between each candidate assessment and reassessment was produced for assessors by the assessments which took place between each assessment and reassessment. Hence the .77 assessment-reassessment reliability coefficient for assessors may not be as inflated as it would seemingly appear. Notwithstanding the possible beneficial interference influence, it is reasonable to conclude that the .77 assessor reliability estimate is the upper limit of assessor reliability.

Construct Validity

Since the assessment-reassessment assessor reliability of the instrument is relatively high, albeit over a relatively short period of time, an estimate of instrument validity is warranted. Because the instrument is in a developmental stage, it is appropriate to consider the instrument's construct validity.

There are a variety of ways to consider and estimate construct validity (Cronbach, 1970). Among these include comparisons of group differences and examination of internal correlations. In the following discussion, the Principal

Leadership Profile will be considered in terms of each of these ways of estimating its construct validity.

For purposes of examining and estimating the construct validity of the Principal Leadership Profile, the profile data for the non-video assessments were aggregated by four factors and several levels of each factor. One factor was type of candidate. This factor has two levels, experienced principals and novice principals. Another factor was type of assessor. Included in this factor are three levels of assessors, teachers, principals, and central office staff. The third factor was type of data. This factor has two levels which include is-profile data and ought-profile data. The forth and final factor was types of items which has three levels. The levels are authority emphasis, power emphasis, and authority orientation emphasis. The four factors and their associated levels are displayed in Figure 9. Within the intersection of each level, the average of each instrument item assessed was computed. Since there are 32 items included in the instrument which are relevant to candidate profile data, each four-way intersection of the factor levels produces 32 data points.

In order to plot and display the profile data, Figures 4 and 5 were employed, yet modified. As noted in the section concerned with the development of the instrument, each item developed corresponds to a mode or modes of authority or power. Hence, each item can be assigned a

TYPES OF ASSESSORS	TYPES OF CANDIDATES		
	Experienced Principals		Novice Principals
	TYPES OF DATA		
	Is Data	Ought Data	
	TYPES OF ITEMS	TYPES OF ITEMS	
Teachers	(1) Authority Emphasis (2) Power Emphasis (3) Authority Orientation Emphasis	(1) Authority Emphasis (2) Power Emphasis (3) Authority Orientation Emphasis	*
Principals	*	*	*
Central Office Staff	*	*	*
All Assessors	*	*	*

*Details of these cells are identical to the "Teachers-Experienced Principals" cell.

Figure 9

Aggregation of Profile Data by Factors and Levels

Employing the emphasis scores indicated by an assessor for a candidate, or average score among various combinations of assessors for various combinations of candidates, a mignitude can be assigned to each item in the assessment instrument.

In Figures 4 and 5 a set of concentric circles were constructed about the axes of each figure. The intersection of the axes were scaled "1," and appropriate circles scaled "2" were constructed about the axes. Multiplying the radii of each at these circles by two identified the radii of the circles to be scaled "3." Multiplying the radii of the circles scaled "2" again by three identified the radii of the circles to be scaled "4." Repeating the process once again by four, identified the radii of the circles to be scaled "5." In this way the areas in Figures 4 and 5 covered by each of the authority or power modes could be scaled "1" through "5."

For purposes of scaling the authority orientation scores, the intersection of the axes in Figure 5 was scaled "3." The intersections of the second and first, and first and second consecutive circles about the axes with the horizontal, vertical, and diagonal axes were each scaled "1," "2," "4," and "5" in a direction consistent with the instrument items.

Each profile item on the instrument can be assigned both a magnitude and a direction for an individual assessment of a candidate by one assessor or various

combinations of candidates and various combinations of assessors. Hence profile data can be transformed into leadership profiles. For purposes of examining and estimating construct validity, Principal Leadership Profiles were constructed for the profile data in each cell in Figure 9. For comparative purposes data from different cells were plotted on the same profile axes. For example, is-authority data for both experienced and novice principals as assessed by teachers were plotted on one set of axes. The corresponding is-power data were plotted on another set of axes.

In this report only six profiles are included for purposes of example and discussion. These are the leadership profiles across all assessors for experienced principals and for novice principals. Figure 10 shows the is-authority profile for experienced principals; Figure 11 shows this same profile for novice principals. Figure 12 and 13 display the is-power profiles for the same two groups. Figure 14 shows the ought-authority profile for experienced and novice principals combined. And, Figure 15 shows the ought-power profile for the same group.

In considering and estimating the construct validity of the Principal Leadership Profile by means of group comparisons, two specific comparisons were made. These included comparing the leadership profiles of experienced

PRINCIPAL LEADERSHIP AUTHORITY PROFILE

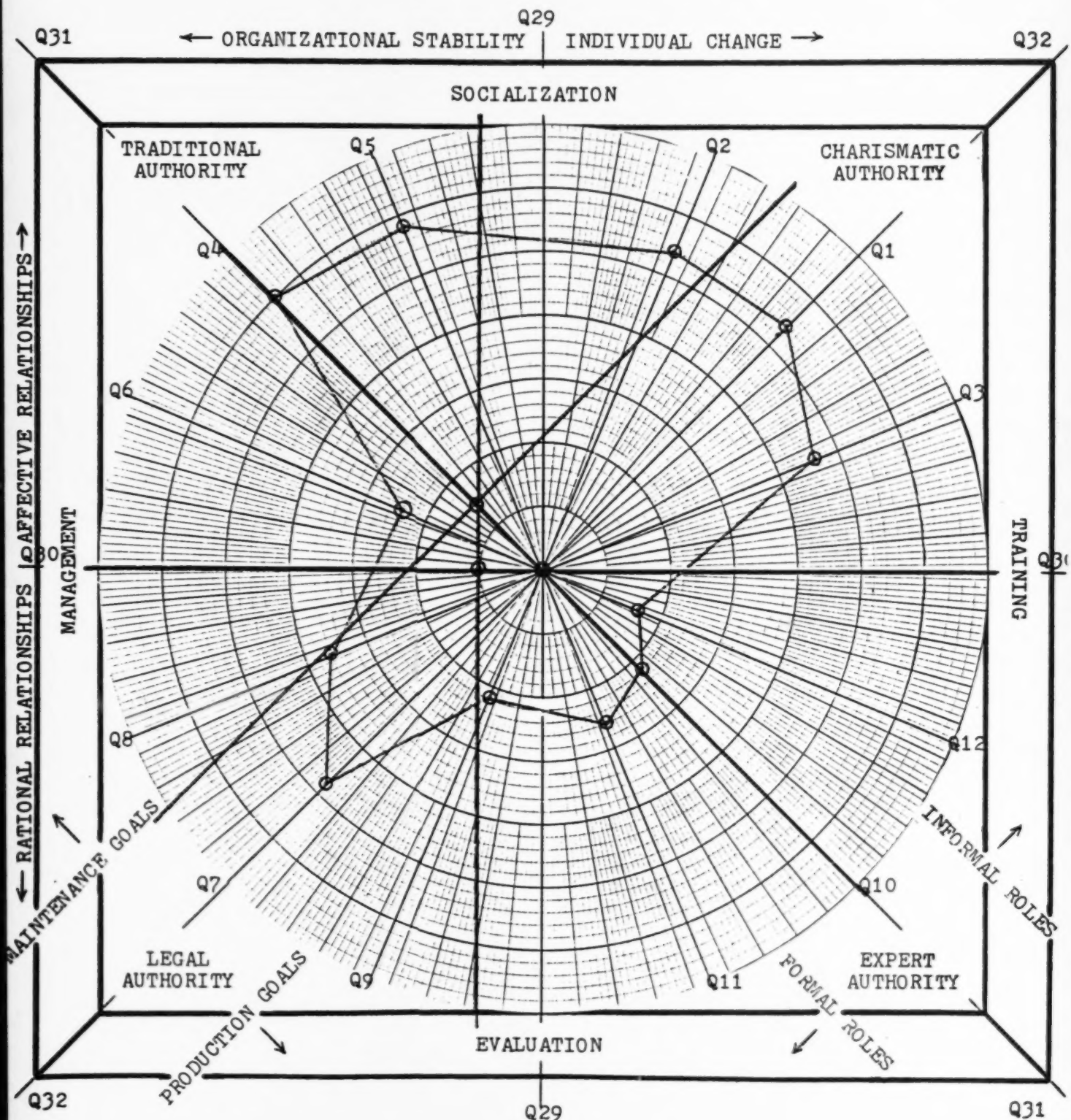

Figure 10

Is-Authority Profile of All Experienced Principals Assessed by All Assessors

PRINCIPAL LEADERSHIP POWER PROFILE

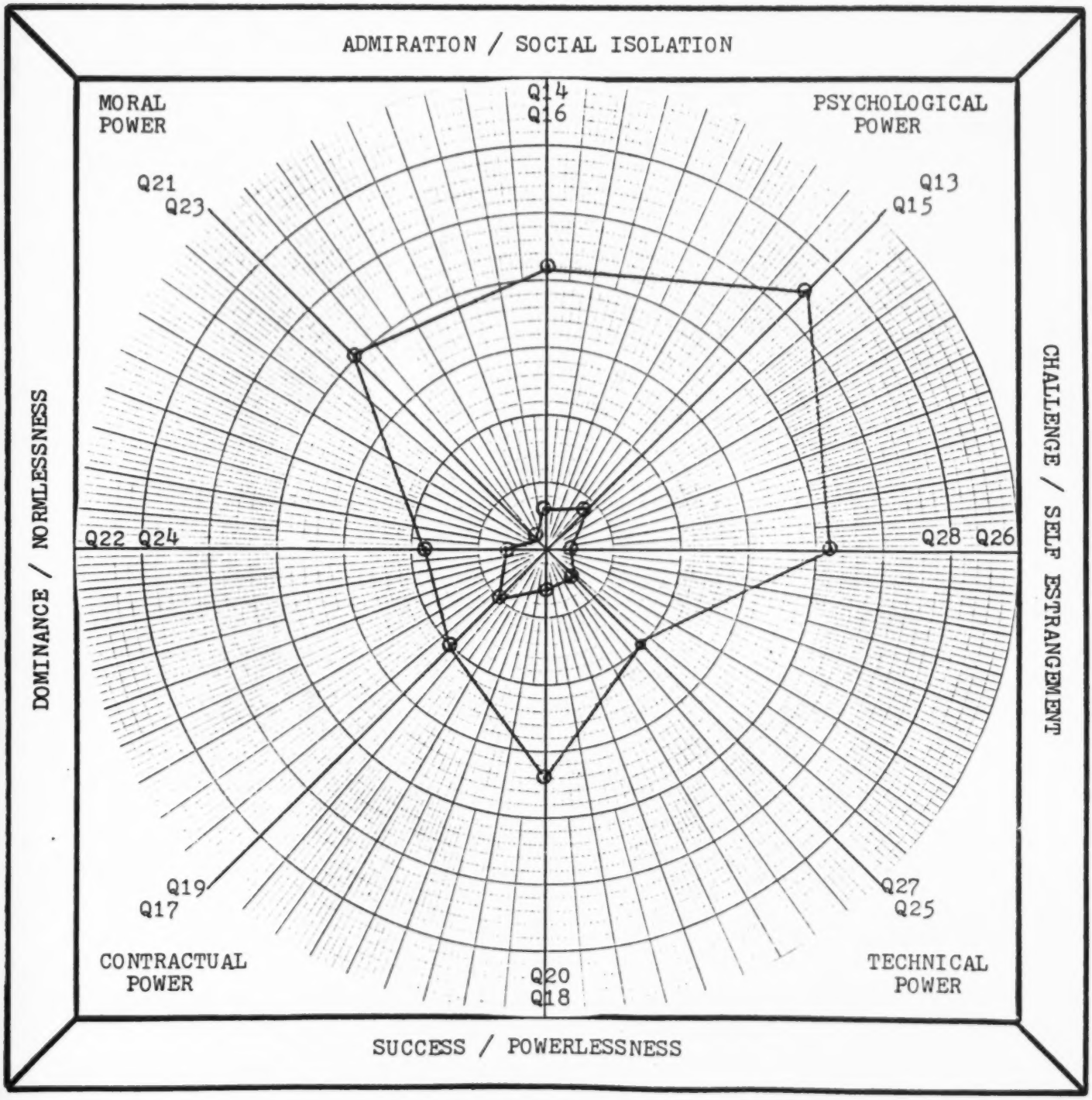

Figure 11

Is-Power Profile of All Experienced Principals Assessed by All Assessors
The Outer Profile Represents Reward Oriented Power.
The Inner Profile Represents Punishment Oriented Power.

PRINCIPAL LEADERSHIP AUTHORITY PROFILE

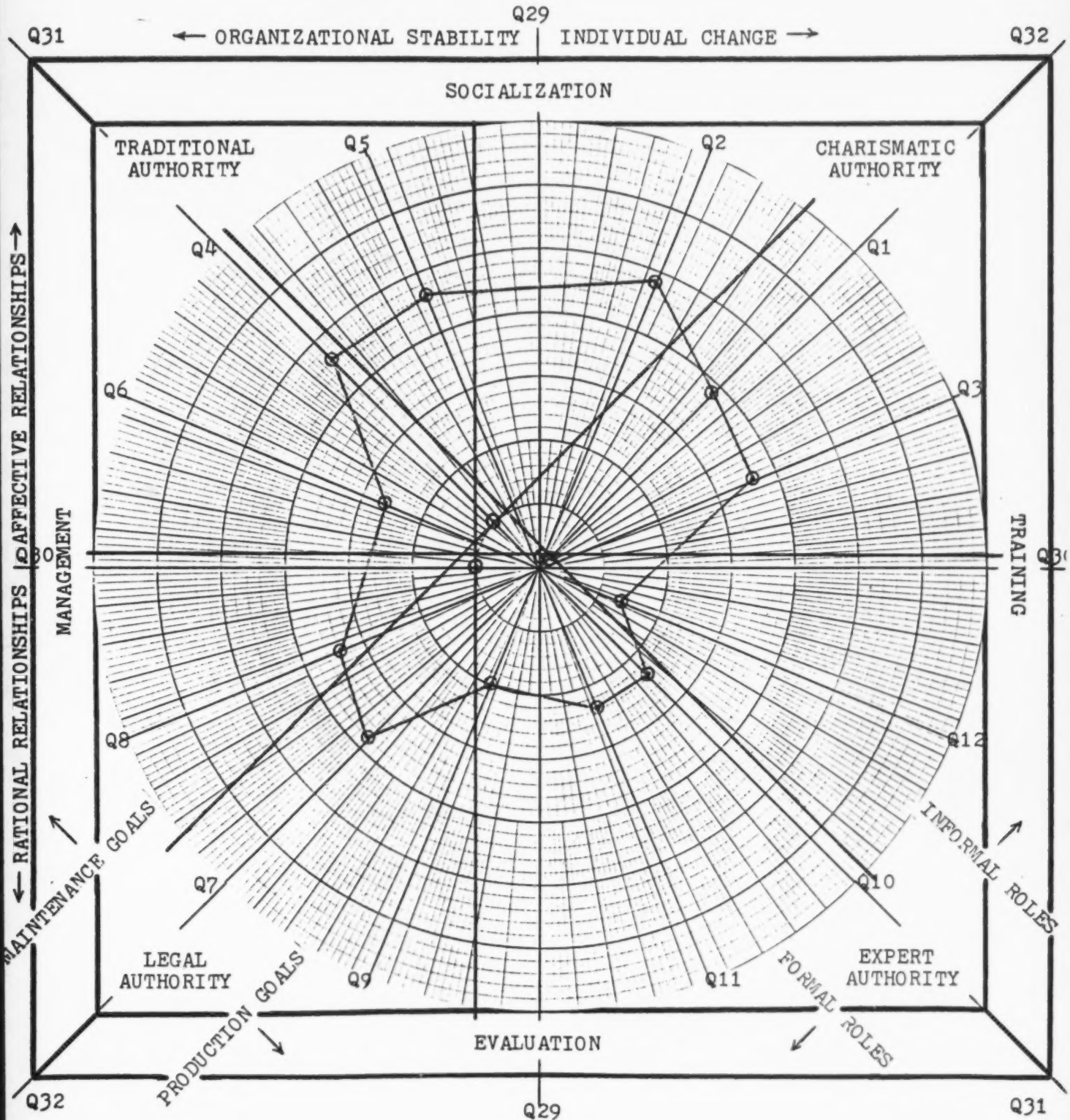

Figure 12

Is-Authority Profile of All Novice
Principals Assessed by All Assessors

PRINCIPAL LEADERSHIP POWER PROFILE

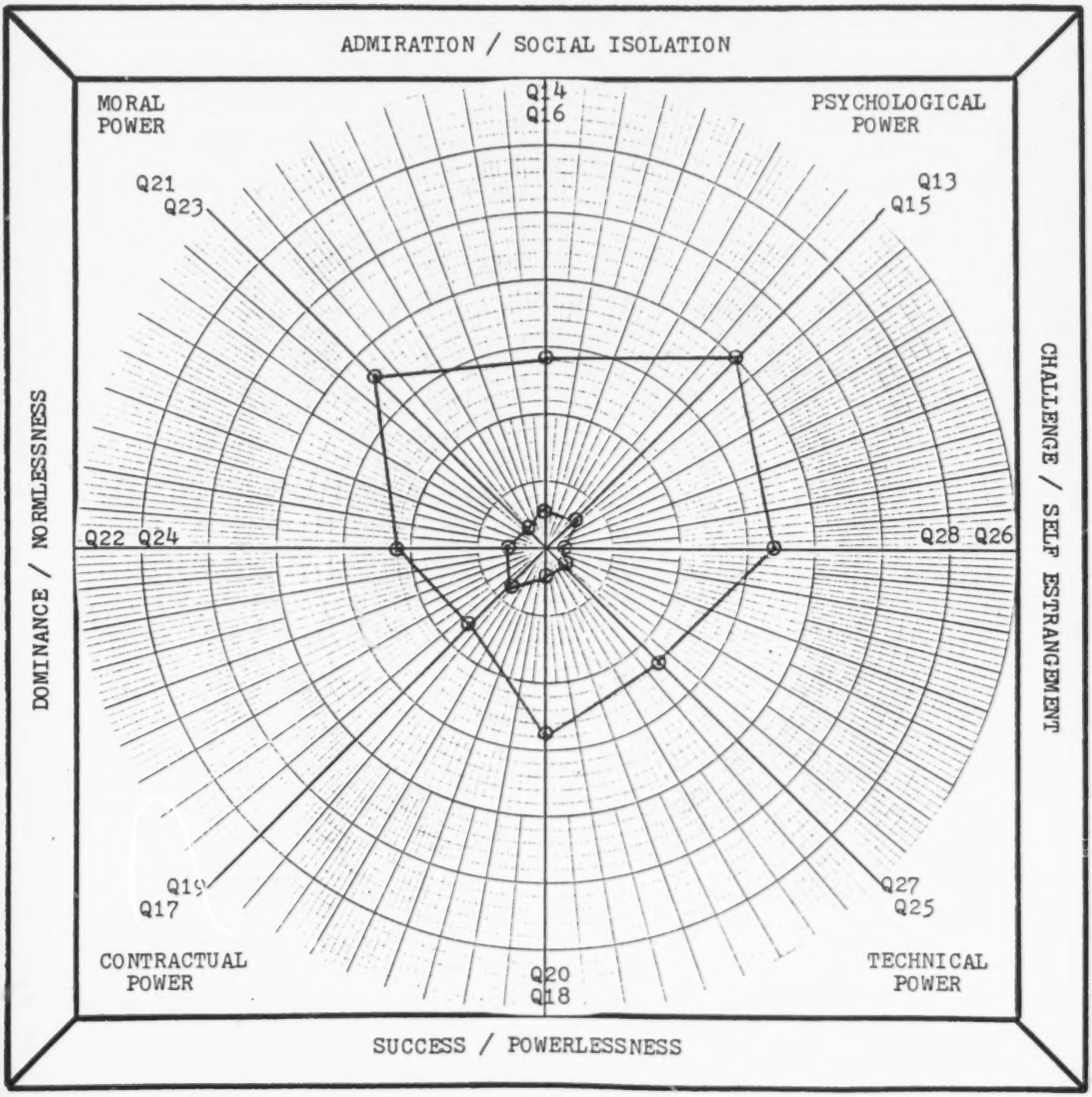

Figure 13

Is-Power Profile of All Novice Principals Assessed by All Assessors
The Outer Profile Represents Reward Oriented Power.
The Inner Profile Represents Punishment Oriented Power.

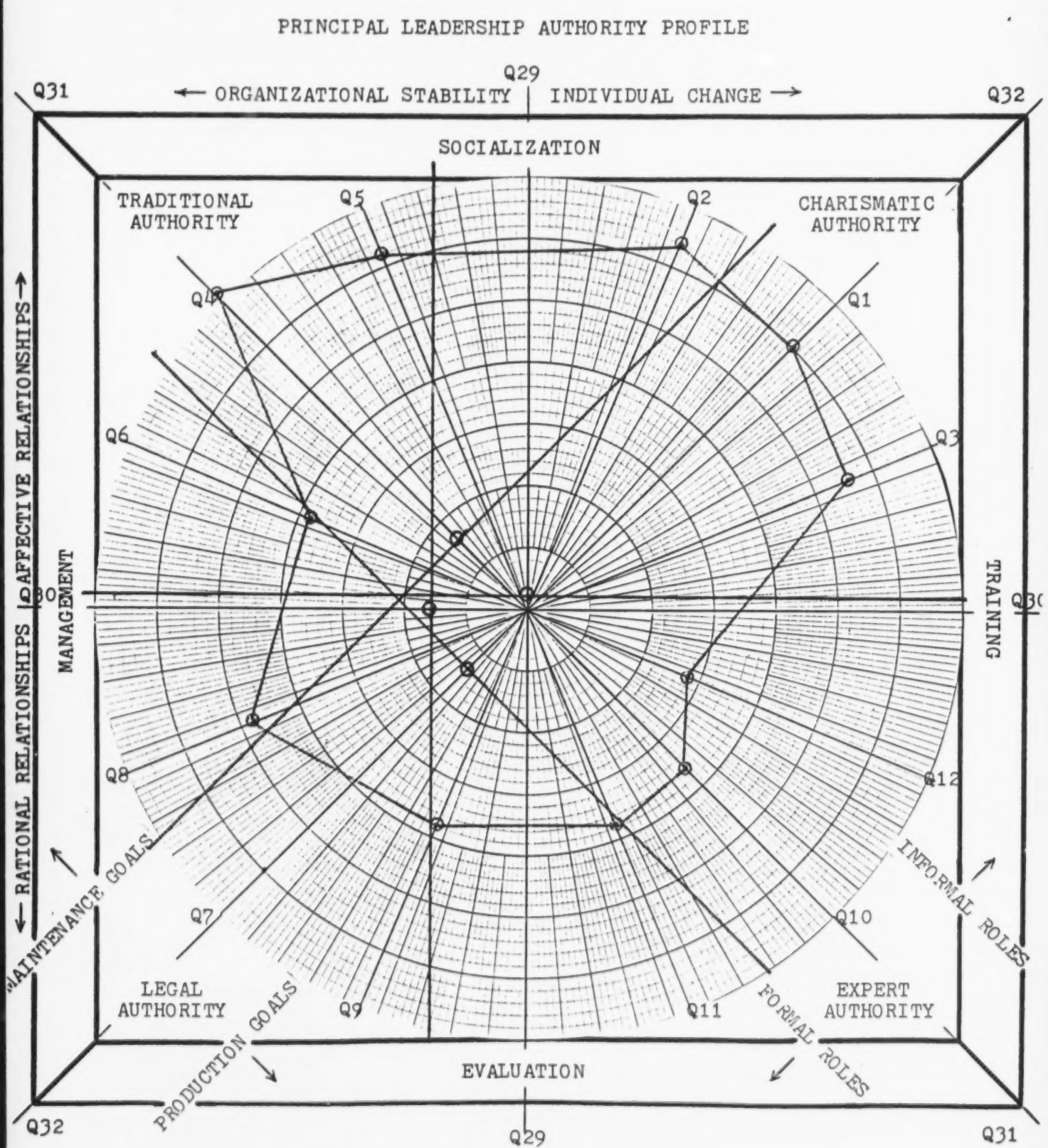

Figure 14

Ought-Authority Profile for All Principals
Assessed by All Assessors

PRINCIPAL LEADERSHIP POWER PROFILE

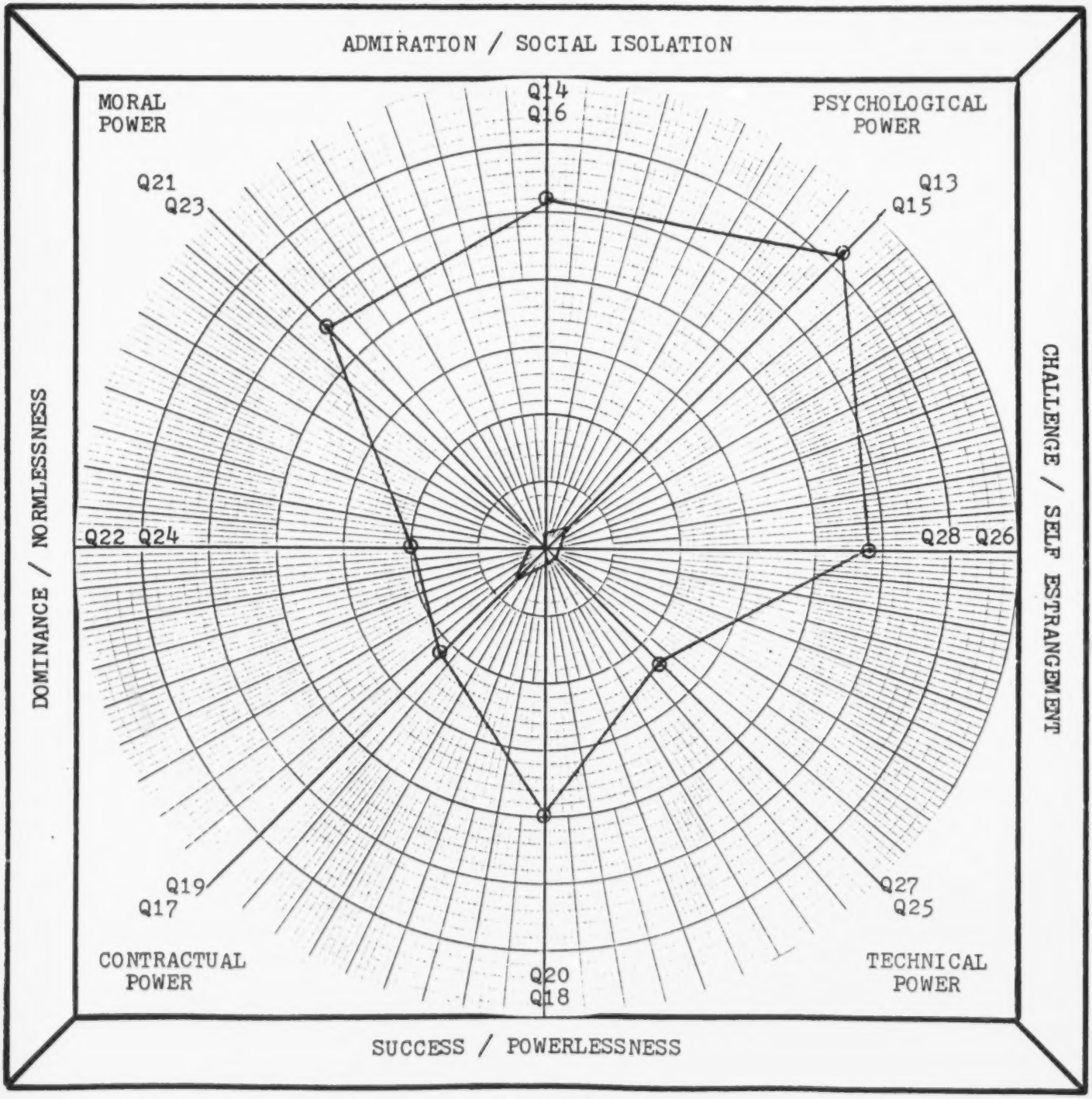

Figure 15

Ought-Power Profile of All Principals Assessed by All Assessors
The Outer Profile Represents Reward Oriented Power.
The Inner Profile Represents Punishment Oriented Power.

principals with novice principals and comparing the profiles of both groups with profiles implied in previous research.

In comparing the is-authority and is-power profiles for experienced principals and novice principals as assessed by teachers, principals, or central office staff members, the profiles have remarkably the same shape. In general, the shapes indicate that authority based leadership for both groups of principals contains relatively high levels of charismatic and traditional authority. In contrast, the use of legal authority is substantially less. Whereas charismatic and traditional authority, and to a lesser extent legal authority, form the major components of authority based leadership, expert authority is not employed to the extent of the other three.

Although the shapes of the is-authority profiles of both experienced and novice principals have the same general shape, those of novice principals tend to circumscribe less area. This is to say that in most cases the is-authority profiles of novice principals tend to be inside those of experienced principals.

In comparing the is-power profile of experienced principals with those of novice principals, the same conclusion is reached as when comparing is-authority profiles. This is to say that the is-power profiles of experienced and novice principals have remarkable the same shape and that the is-power profiles of novice principals

tend to cover less area and lie inside those of experienced principals.

The finding that both experienced and novice principals have is-authority and is-power profiles of the same general shape, and that in both cases the is-profiles of novice principals tend to lie inside those of experienced principals, suggests that the instrument has a degree of construct validity. It would be expected that individuals who have taken graduate course work to fulfill the requirements of a principal credential and who intend to become principals would tend to have leadership styles which approximate those of experienced principals but which are less developed.

Indepth literature concerned with the principalship suggests that principals lead primarily by means of their own personal presence and through developing informal affective relationships with their subordinates (Wolcott, 1973; Gronn, 1983). Formal leadership through rule development and evaluation procedures tends to take second place in comparison to leadership which rests on personal presence and affective interpersonal relationships. Also, leadership based on expertise which manifests itself through teaching and demonstrating instructional practices tends not to be a strong element in princpal leadership (Wolcott, 1973; Gronn, 1983).

As noted above, the leadership profiles of both experienced and novice principals indicates that they tend

to favor leadership based primarily on charismatic and traditional authority. These are the very authority modes which form the basis of leadership which rests on personal presence and strongly developed affective interpersonal relationship. The lower priority both groups of principals give to leadership based on legal authority which manifests itself in rules and impersonal relationship is evident in the profiles and consistent with the indepth research on principals. The relatively little emphasis both groups of principals give to leadership based on expert authority is consistent with the research finding that principal leadership, in general, stops at the classroom door (Goodlad & Klein, 1970).

The is-leadership profiles for both groups of principals, experienced and novice, is consistent with the leadership of principals characterized in literature either explicitly or implicitly. Hence, this consistency suggests that the Principal Leadership Profile at least has some degree of construct validity.

A second useful way of considering and estimating the construct validity of the instrument is to examine the correlation of selected items on the instrument. In the Principal Leadership Profile there are two independent sets of indicator items which assess responses in terms of authority. The first set assesses the intensity of each mode independently and also assesses the emphasis of component modes which serve as the basis for the four

leadership authority functions. The second set of indicator items assesses the emphasis of the modes of authority which form the basis of the four leadership authority orientations.

Recall that each of the four leadership authority orientations consists of a pair of polar sub-orientations. Each of the pair of polar sub-orientations are divided by either a horizontal, vertical, or diagonal axis as indicated in Figure 5. In symmetrical authority profiles, it is expected that the four axes which divide the four polar pairs of sub-orientation will all intersect and will all pass through the central individual axes of the Leadership Profile.

If the set of indicator items which assess the four leadership authority orientations name validity, then the axes which divide the authority modes or component modes should all intersect at close to the same point. This tends to be the case for all leadership profiles constructed in this study. The example Leadership Profiles shown in Figures 10, 11 and 14 demonstrate the intersection of the axes which separate the four polar sub-orientations that form the four leadership authority orientations.

If the set of indicator items which assess the four leadership authority orientations are correlated with each other and are correlated with the set of indicator items used to assess the emphasis of the authority modes separately and in combinations, then the Principal

Leadership Profile instrument can be said to have a relatively high level of construct validity. As noted above, for a given leadership profile developed in this study from data employing the Principal Leadership Profile, the axes which divide the four polar leadership sub-orientations tend to intersect. Additionally these axes tend to intersect at the geometric center of the area circumscribed by the authority leadership profile. The intersection of the axes, along with the centrality of the intersection with respect to the geometric center of the leadership profile, indicates that both sets of indicator items are correlated. These correlations give further evidence that the Principal Leadership Profile has a relatively high level of construct validity.

Instrument Utility

Now that the reliability of the assessors and the construct validity of the instrument has been established with a degree of confidence, it is important to turn to the utility issue regarding the instrument. The purpose of the study was to determine if an instrument which would allow for open-ended responses to cases could be developed and would be useful for assessing participant responses to a case study in assessment exercises. Although the reponse to this question remains unclear, there is evidence that the Princpal Leadership Profile does what it was designed to do. It does provide a means of assessing individual responses

with sets of normed responses for both experienced and novice principals.

Individual leadership profiles can be developed for each candidate. A complete profile would contain an is-authority profile, an is-power profile, an ought-authority profile, and an ought-power profile. An example of an is-authority profile and an is-power profile for a male novice principal are shown in Figures 16 and 17. Similar profiles are displayed in Figures 18 and 19 for a female novice principal. These individual is-leadership profiles can be compared with the is-profile for all experienced principals across all assessors (Figures 10 and 11) and with similar profiles developed for novice principals (Figures 12 and 13). The individual profiles can also be compared with the ought-profiles developed across all principals, experienced and novice, assessed by all assessors (Figures 14 and 15).

For purposes of discussing the utility of the Principal Leadership Profile in assessing responses to case studies in terms of leardership style, the discussion will be limited to examing the is-leadership profile of the female novice principal shown in Figures 18 and 19.

In examining individual leadership profiles for purposes of inferring leadership style, a number of comparisons can be made. Some of these can be made by making comparison within an individual leadership profile, while others can be made by making comparisons among different

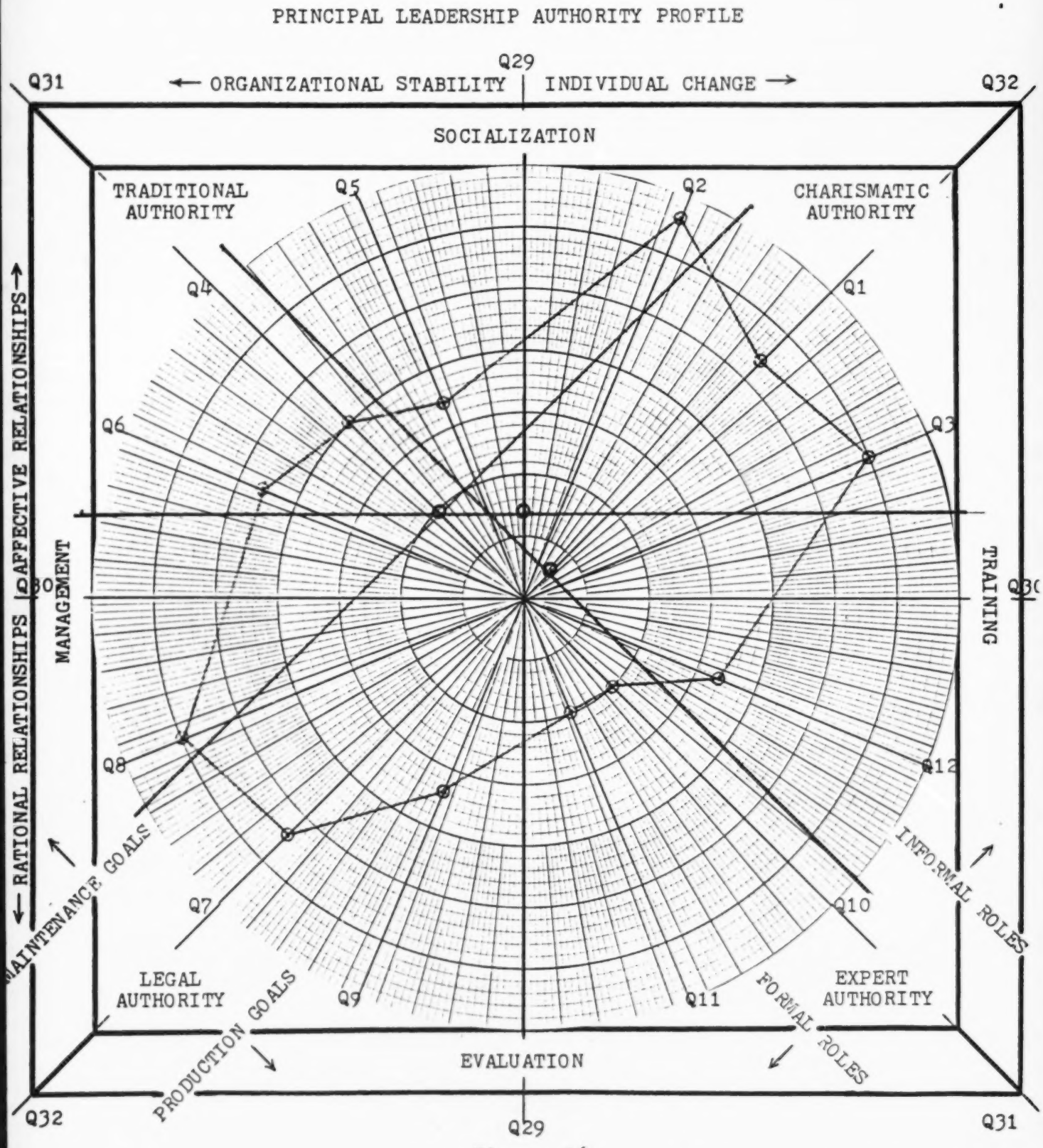

Figure 16

An Individual Is-Authority Profile for a Male Novice Principal Assessed by a Team Consisting of a Teacher, Principal, and Central Office Staff Member

PRINCIPAL LEADERSHIP POWER PROFILE

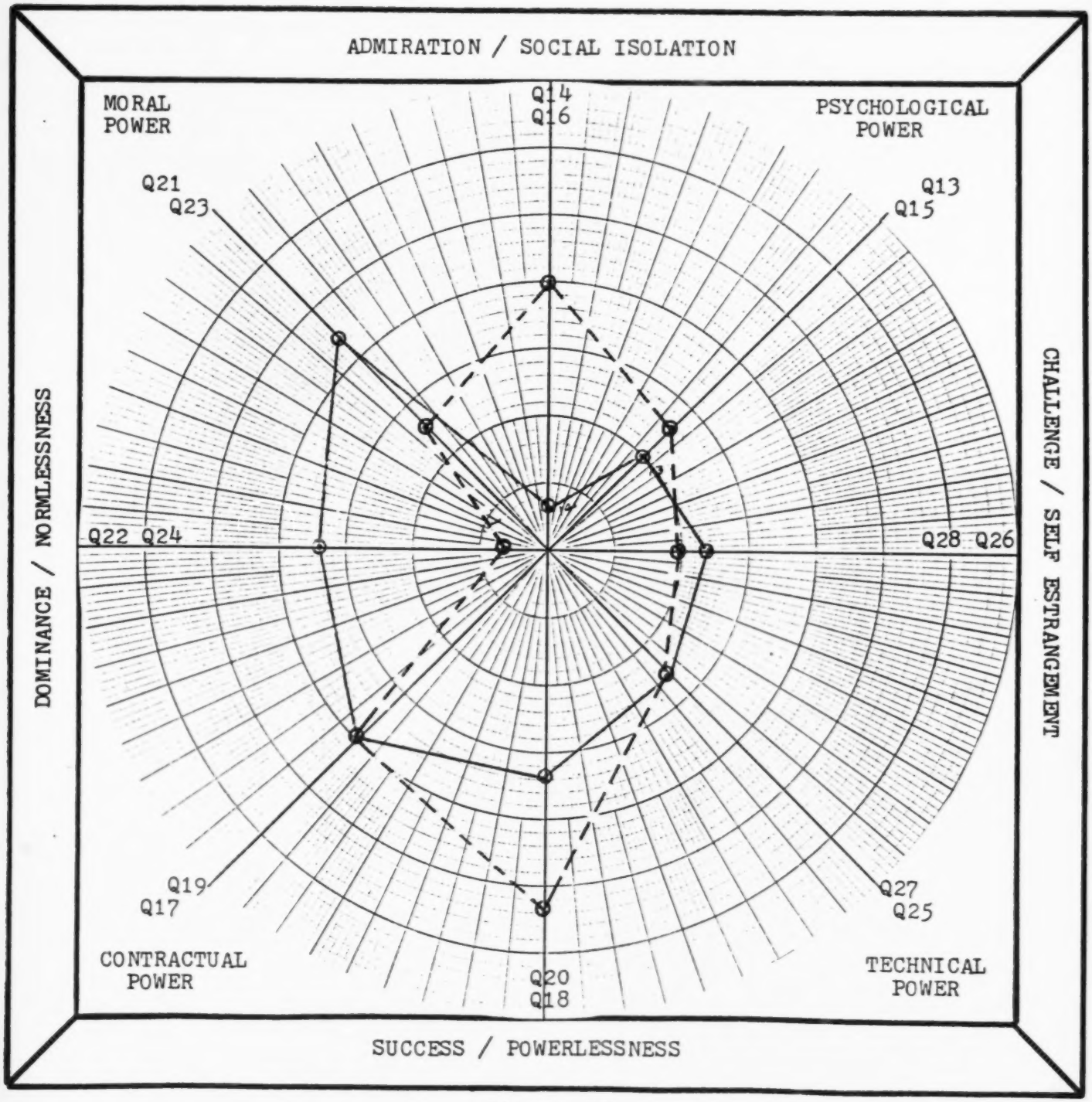

Figure 17

An Individual Is-Power Profile for a Male Novice Principal Assessed by a Team Consisting of a Teacher, Principal, and a Central Office Staff Member—The Solid Profile Represents Reward Oriented Power. The Dashed Profile Represents Punishment Oriented Power.

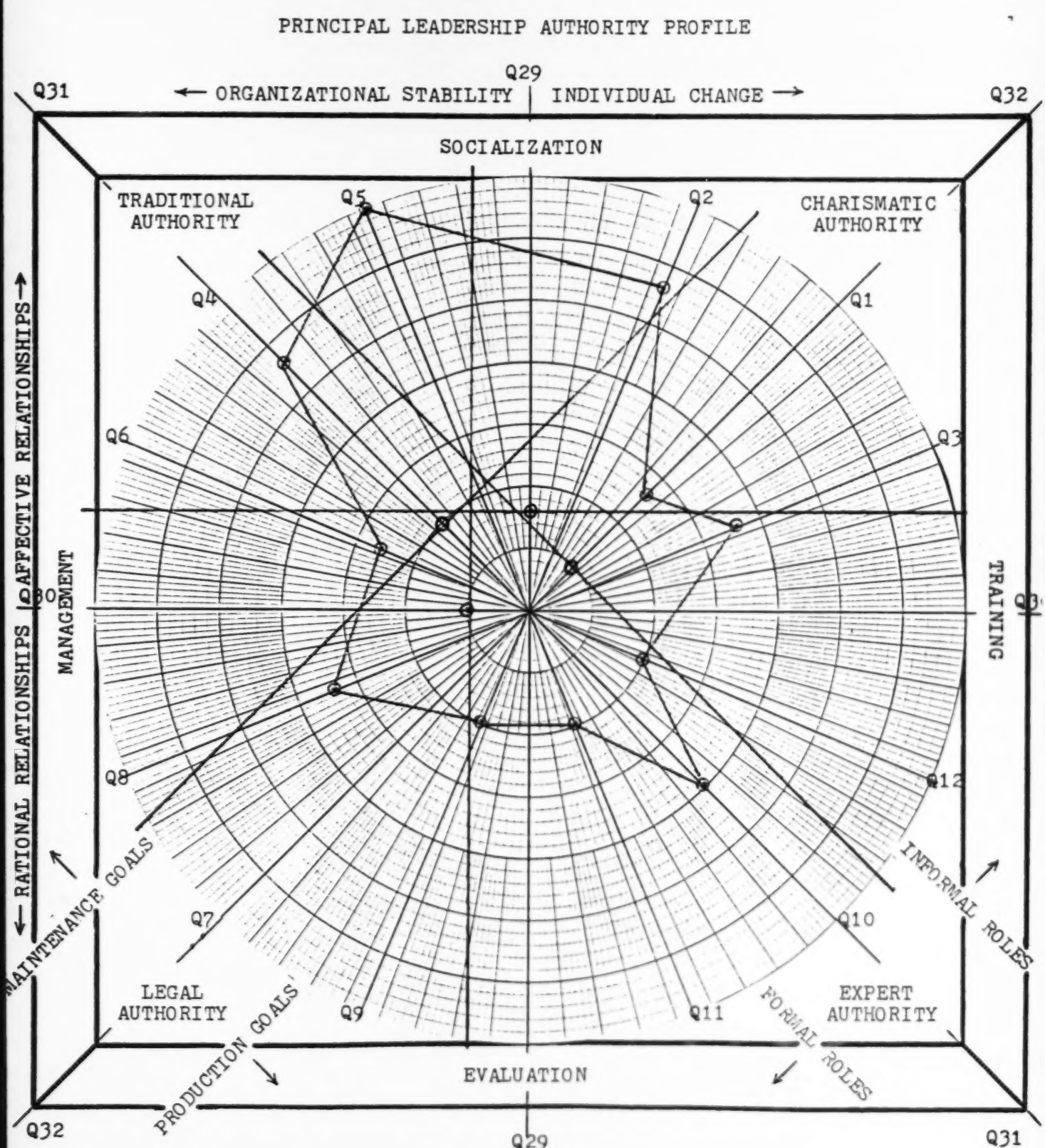

Figure 18

An Individual Is-Authority Profile for a Female Novice Principal Assessed by a Team Consisting of a Teacher, Principal, and Central Office Staff Member

PRINCIPAL LEADERSHIP POWER PROFILE

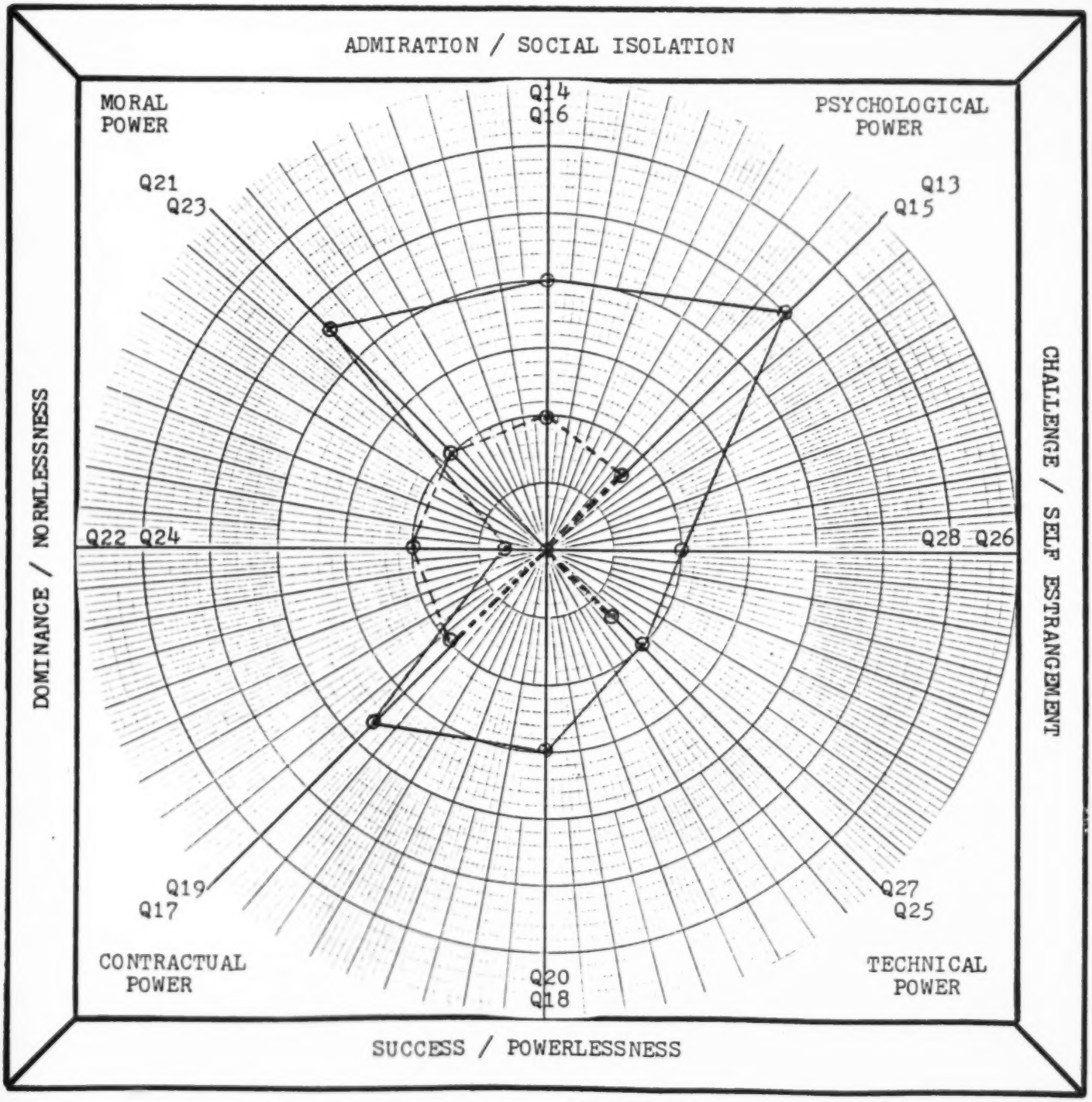

Figure 19

An Individual Is-Power Profile for a Female Novice Principal Assessed by a Team Consisting of a Teacher, Principal, and a Central Office Staff Member—The Solid Profile Represents Reward Oriented Power. The Dashed Profile Represents Punishment Oriented Power.

profiles. In examining the is-profiles of the female novice principal, only several illustrative camparisons will be made.

Comparing the is-profiles of the novice principal indicate that she controls others using both authority and power, however with more emphasis on authority. When using power she utilitizes reward oriented power to a larger extent than punishment oriented power.

Making comparisons within the is-authority profile indicates that the novice princpal emphasizes control through socialization and de-emphasizes control through evaluation, management, and training. Additionally the profile indicates the principal emphasizes individual change slightly over organizational stability. Clearly her leadership is oriented toward organizational maintenance rather than productively.

Making similar and other comparisons of individual leadership profiles for all candidates who respond to case studies in assessment exercises seems to provide a useful way to characterize the leadership style of each candidate.

Implications for Further Research

The results of the study reported here have implications for further research which may broaden the utility of assessment methodology in general or by refining the assessment procedures in particular. The research procedures of the current study may be refined by altering

the questioning pattern of assessors to solicit more evidence of power in candidate responses. Assessors and candidates suggested through the evaluation comments a reluctance for candidates to suggest power modes of controlling subordinate behavior. Revision of the questioning process may produce a move valid presentation of a candidate's leadership profile.

Further research to broaden the utility of assessment methodology in profiling leadership may include assessment of administrators independent of reading the case study. The questionnaire would be altered to solicit a self assessment. If similar profiles were generated, assumptions about the independence of the profile measurement from the actual case study could be made. Further research regarding interrater reliability could be accomplished by showing selected video tape recordings of interviews to a second set of assessors. By using a large group of assessors who assess the same interview, data would be generated for a reliability study.

Ultimately, further research could be conducted to modify the Principal Leadership Profile to accommodate teachers and central office administrators. Leadership profile assessment procedures independent of administrator positions would facilitate a broader use of professional assessment employing open-ended responses to case studies.

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